

DETAILED ACTION

1. **Applicant's arguments filed on 09/09/2011 with respect to the claims have been fully considered and are persuasive.**

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **Mark Beloborodov** on **November 3, 2011**.

The application has been amended as follows:

Cancel claims 1 and 18 thru 22.

In claim 2, line 28 after "and said reference power supply unit when", please delete "it".

In claim 2, line 28 after "and said reference power supply unit when", please insert "the control device".

In claim 3, line 5 after "reference power supply unit when", please delete "it".

In claim 3, line 5 after "reference power supply unit when", please insert "the control device".

In claim 4, line 4 after "said one power supply unit when", please delete "it".

Art Unit: 2838

In claim 4, line 4 after “said one power supply unit when”, please insert “the control device”.

In claim 5, line 4 after “said one power supply unit when”, please delete “it”.

In claim 5, line 4 after “said one power supply unit when”, please insert “the control device”.

In claim 6, line 5 after “said reference power supply unit when”, please delete “it”.

In claim 6, line 5 after “said reference power supply unit when”, please insert “the control device”.

Reasons for Allowance

3. Claims 2 thru 17 are allowed.

4. The following is an examiner’s statement of reasons for allowance:

5. Claims 2 thru 17; prior art of record fails to disclose either by itself or in combination: “wherein the control device is designed to compare the phases of the mode switch control signals of said one power supply unit with the phases of the mode switch control signals of said reference power supply unit to determine an actual phase relationship; and wherein the control device, is designed to generate synchronizing control signals for at least one of said one power supply unit and said at least one reference power supply unit when it finds that the actual phase relationship deviates from the optimal phase relationship, effectively changing the timing of at least one mode switch moment of at least one of said one power supply unit and said at least one reference power supply unit,

Art Unit: 2838

respectively, such that the deviation between the actual phase relationship and said optimal phase relationship is reduced, in order to ensure interleaved operation of all of the plurality of power supply units.” ”.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Clean Set of Amended Claims

2. Switched mode power supply assembly comprising: a plurality switched mode power supply units coupled to each other in parallel, each power supply unit comprising: an output stage for generating an output signal the output stage being capable of selectively operating in a first mode wherein the output signal is increasing and operating in a second mode wherein the output signal is decreasing; and mode switch control means for generating a first mode switch control signal for controlling the output stage to switch from the first operating mode to the second operating mode, and for generating a second mode switch control signal for controlling the output stage to switch from the second operating mode to the first operating mode; and a control device comprising inputs for receiving the mode switch control signals from all of the plurality power supply units; wherein the control device is designed to determine an optimal phase relationship between phases of the mode switch control signals of one power supply unit and phases of the mode switch control signals a reference power supply unit; wherein the control device is designed to compare the phases of the

Art Unit: 2838

mode switch control signals of said one power supply unit with the phases of the mode switch control signals of said reference power supply unit to determine an actual phase relationship; and wherein the control device is designed to generate synchronizing control signals for at least one of said one power supply unit and said reference power supply unit when the control device finds that the actual phase relationship deviates from the optimal phase relationship, effectively changing the timing of at least one mode switch moment of at least one of said one power supply unit and said reference power supply unit, respectively, such that the deviation between the actual phase relationship and said optimal phase relationship is reduced, in order to ensure interleaved operation of all of the plurality of power supply units.

3. Switched mode power supply assembly according to claim 2, wherein the control device is designed to generate a delaying synchronizing control signal for said reference power supply unit when the control device finds that said one power supply unit is lagging with respect to said optimal phase relationship, effectively delaying the timing of at least one mode switch moment of said reference power supply unit.

4. Switched mode power supply assembly according to claim 2, wherein the control device is designed to generate an advancing synchronizing control signal for said one power supply unit when the control device finds that said one power supply unit is lagging with respect to said optimal phase relationship, effectively advancing the timing of at least one mode switch moment of said one power supply unit.

Art Unit: 2838

5. Switched mode power supply assembly according to claim 2, wherein the control device is designed to generate a delaying synchronizing control signal for said one power supply unit when the control device finds that said one power supply unit is early with respect to said optimal phase relationship, effectively delaying the timing of at least one mode switch moment of said one power supply unit.

6. Switched mode power supply assembly according to claim 2, wherein the control device is designed to generate an advancing synchronizing control signal for said reference power supply unit when the control device finds that said one power supply unit is early with respect to said optimal phase relationship, effectively advancing the timing of at least one mode switch moment of said reference power supply unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GUSTAVO ROSARIO BENITEZ whose telephone number is (571)270-7888. The examiner can normally be reached on Monday thru Thursday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica Lewis can be reached on (571) 272-1838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/7/2011

/GARY L LAXTON/
Primary Examiner, Art Unit 2838

/GUSTAVO ROSARIO BENITEZ/
Examiner, Art Unit 2838